

**WHAT IS CLAIMED IS:**

1           1.       A circuit for providing an indication that a signal level of a primary power  
2 source transitions below a predefined threshold level, the circuit comprising:

3                   a first transistor electrically coupled to a second transistor, a common node  
4 being formed along the coupling;

5                   a third transistor having a gate terminal coupled to the common node; and

6                   at least one pair of series connected trimming transistors, a first transistor of  
7 the at least one pair of trimming transistors having a gate terminal coupled to the common  
8 node, the at least one pair of series connected trimming transistors coupled to a drain/source  
9 region of the third transistor.

2.       The circuit according to claim 1, further including a fuse electrically coupled to  
a gate terminal of a second transistor of the at least one pair of trimming transistors, the fuse  
being blown to selectively turn on/off the second transistor of the at least one pair of trimming  
transistors.

1           3.       The circuit according to claim 1, wherein the first transistor is coupled to the  
2 primary power source and a gate terminal of the second transistor is coupled to a substrate of  
3 the circuit.

1           4.     A circuit, comprising:  
2                     a first transistor having its source/drain terminals connected between a external  
3 power supply voltage and a first node;  
4                     a second transistor having its source/drain terminals connected between the  
5 first node and a reference voltage, and further having a gate terminal connected to receive a  
6 substrate voltage related to a backup supply voltage; and  
7                     a third transistor having its source/drain terminals connected between an output  
8 node and the reference voltage, and further having a gate terminal connected to the first node.

1           5.     The circuit of claim 4 wherein the first transistor is a p-channel device and the  
2 second and third transistors are n-channel devices.

1           6.     The circuit of claim 4 wherein the third transistor drives the output node to  
2 change state responsive to a drop in the external power supply voltage below a threshold  
3 value.

1           7.     The circuit of claim 6 wherein the threshold value depends on a pull exerted by  
2 the first transistor.

1           8.     The circuit of claim 7 further including circuitry for adjusting the pull exerted  
2 by the first transistor to effectuate a change in the threshold value.

1           9.     The circuit of claim 8 wherein the circuitry comprises a pair of drain/source  
2 terminal series connected transistors which are connected between the external power supply  
3 voltage and the output node, a first one of the pair of transistors having its gate terminal  
4 connected to the first node and a second one of the pair of transistors having its gate terminal  
5 connected to receive a threshold voltage trim control signal.

1           10.    The circuit of claim 8 wherein the circuitry comprises a plurality of pairs of  
2 drain/source terminal series connected transistors, each pair being connected between the  
3 external power supply voltage and the output node, a first one of the transistors in each pair  
4 having its gate terminal connected to the first node and a gate terminal of each second one of  
5 the transistors in each pair connected to receive its own threshold voltage trim control signal.

1           11.    The circuit of claim 10 wherein a first subset of the plurality of pairs receive  
2 voltage trim control signals to drive the second transistors in each pair to a normally on  
3 condition and a second subset of the plurality of pairs receive voltage trim control signals to  
4 drive the second transistors in each pair to a normally off condition.

1           12.    The circuit of claim 11 further including a trim selection circuit operable to  
2 selectively and individually configure the voltage trim control signals to change the normally  
3 on/off condition of the second transistors in each pair.

1           13.    The circuit of claim 12 wherein the trim selection circuit comprises selectively  
2 blowable fuse circuitry.

1           14.    The circuit of claim 4 further including pull up circuitry connected between the  
2 external power supply voltage and the output node.

1           15.    The circuit of claim 14 wherein the pull up circuitry comprises a pair of  
2 drain/source terminal series connected transistors which are connected between the external  
3 power supply voltage and the output node, a first one of the pair of transistors having its gate  
4 terminal connected to the first node and a second one of the pair of transistors having its gate  
5 terminal connected to the reference voltage.

1           16.    A circuit for providing an indication that a voltage of a primary power source  
2 transitions below a threshold level, comprising:

3                   a first transistor;

4                   a second transistor electrically coupled to the first transistor at a common node;

5                   a third transistor having a gate terminal coupled to the common node and a  
6 conduction terminal at which the indication is produced; and

7                   a pair of series connected threshold level trimming transistors, a first transistor  
8 of the pair having a gate terminal coupled to the common node, a second transistor of the pair  
9 receiving a threshold level trimming control signal, and the pair being coupled to the  
10 conduction terminal at which the indication is produced.

1           17.    The circuit of claim 16, wherein the first transistor is coupled to the primary  
2 power source and a gate terminal of the second transistor is coupled to a substrate of the  
3 circuit.

1           18.    The circuit of claim 16 wherein the first transistor exerts a pull which sets the  
2 threshold level, the pair of series connected threshold level trimming transistors adjusting the  
3 pull exerted by the first transistor in response to the threshold level trimming control signal to  
4 effectuate a change in the threshold level.

1           19.    The circuit of claim 16 further including pull up circuitry connected between  
2   the external power supply voltage and the conduction terminal at which the indication is  
3   produced.

1           20.    The circuit of claim 19 wherein the pull up circuitry comprises a pair of  
2   drain/source terminal series connected transistors which are connected between the external  
3   power supply voltage and the conduction terminal at which the indication is produced, a first  
4   one of the pair of transistors having its gate terminal connected to the first node and a second  
5   one of the pair of transistors having its gate terminal connected to the reference voltage.